

REMARKS

Claims 1-14 were previously pending in the application. By the Amendment, Claims 1, 3, 5, 10-11 and 13 are currently amended, new Claims 15-20 have been added, and Claims 2, 4, 6-9, 12 and 14 remain unchanged.

Claims 1-14 were rejected under 35 USC §103(a) as being unpatentable over Gowan (US 5,343,712) in view of Brimer (US 4,784,212).

Independent Claim 1 recites a refrigerator changing the temperature of wine from a starting temperature to a final temperature, comprising: a housing surrounding at least one interior space for receiving a container of wine; a low temperature generator for cooling said interior space; a control device for receiving a target value signal and controlling a temperature of said interior space to a target temperature represented by said target value signal, by controlling operation of said low temperature generator; and a control element sending said target value signal to said control device with a level varying according to a prescribed course to the final temperature.

Gowan discloses a temperature controller for converting an ordinary household refrigerator into a unit for storing wine for extended periods of time. The controller selectively enables and disables the supply of electrical power to the refrigerator to produce cooling intervals. The chiller (14) of the refrigerator is turned on to cool the refrigerator when the electrical power supply is enabled, and turned off when the supply is disabled. The sensed temperature within the refrigerator may increase when the power supply is disabled and the chiller (14) is turned off. (See Fig. 3 and col. 6, lines 27-32)

As acknowledged by the Examiner, Gowan does not disclose a prescribed course, as recited in Claim 1.

Brimer discloses a thermal energy control system, such as a large industrial HVAC system, for the heating system of a building. As described in Brimer, the temperature measurements for building heating systems are usually taken near the core of the building, but the temperature near the perimeter of the building may differ greatly from the temperature near the core of the building. (See Brimer, col. 1, lines 14-23) In addition, the building heating system is generally shut off at night when the space is unoccupied and the temperature decreases overnight. (See col. 2, lines 43-35) Brimer

teaches a recovery routine for the morning to bring the temperature of the building back to the occupancy temperature.

Applicants maintain the position that Brimer is non-analogous art for the present application and is improperly combined with Gowan. Controlling a heating system for a large building is not analogous to controlling the temperature of a wine preservation device. The Examiner must find analogous art in order to rely on the art as a basis for rejection. To be analogous, the reference must either be in the field of Applicants' endeavor or be reasonably pertinent to the particular problem with which the inventor was concerned. Applicants respectfully submit that Brimer is non-analogous prior art and respectfully request reconsideration of the corresponding rejections.

First, Brimer is not in the Applicants' field of endeavor. Brimer discloses a thermal energy control system for the heating system of a building. Brimer is not related to a refrigerator for changing the temperature of wine from a starting temperature to a final temperature. Therefore, Brimer is not in the Applicants' field of endeavor.

Second, Brimer is not reasonably pertinent to the particular problem with which the Applicants were concerned. A reference may be reasonably pertinent if it is one which logically would have commended itself to an inventor's attention in considering his problem. A person of ordinary skill in the art of wine preservation would not reasonably be expected or motivated to look to the art of large heating systems for buildings to solve the problems of a refrigerator for changing the temperature of wine. In addition, the applicants would have had less motivation or occasion to consider the Brimer reference after consulting the Gowan reference. The "Background of the Invention" section of Gowan provides an extensive and detailed description of the difficulties of storing wine. (See col. 1, line 32 - col. 2, line 57) After consulting the Gowan reference, one of ordinary skill in the art of wine preservation would *not* have logically considered building heating systems for solving the problems of wine storage or temperature moderating devices.

In the Response to Arguments section of the Final Office action dated July 11, 2005, the Examiner supports the combination of Gowan and Brimer by stating that both a building compartment and refrigerator compartment are environmental controlled spaces. However, all environmental controlled spaces are not the relevant field of endeavor for

the claimed invention. Applicants are not claiming all environmental controlled spaces. Applicants have amended Claim 1 to clarify that the claimed refrigerator is a type of refrigerator suitable for a specific application, such as a refrigerator changing the temperature of wine from a starting temperature to a final temperature. The Examiner has improperly considered all environmental controlled spaces as the field of relevant art which is beyond what is considered acceptable by those skilled in the art of wine preservation. As described in Gowan, not even all refrigerators are acceptable for the purpose of wine preservation. In fact, the entire purpose of Gowan is to convert an ordinary household refrigerator into a device suitable for storing wine. Following the logic of Gowan, if a regular household refrigerator is not acceptable for the purpose of wine preservation and requires a conversion device, then one of ordinary skill in the art would clearly not look to Brimer and heating systems for buildings. Accordingly, Brimer is non-analogous prior art and is not an appropriate basis for a rejection under 35 USC §103.

Even if Brimer was an analogous prior art reference, which it is not, the Examiner has not established a *prima facie* case of obviousness with respect to the claimed invention and the combination of Gowan and Brimer. Three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claims limitations.

First, there is no suggestion or motivation within the prior art to combine Gowan and Brimer. The cited references do not include any such suggestion and the Examiner has not identified any such suggestion in the prior art. In the Final Office action dated July 11, 2005, the Examiner state's that "the teaching is the controlled steps may have measurements controlled as disclosed either by Gowan or by Brimer et al. or prescribed stepwise course as disclosed by Brimer et al. to utilize on an environmental controlled space." This explanation does not provide a teaching or suggestion from the prior art to combine the references. Rather, this explanation is merely a recitation of the separate

teachings from each individual reference, not a reason why the references should be combined.

Similarly, there is motivation to modify Gowan as proposed by the Examiner. Gowan already includes a temperature controller (10) for overriding the thermostat control of the chiller (14) and controlling the temperature within the refrigerator. There is no logical reason why one of ordinary skill in the art would be motivated to modify the suitable temperature controller of Gowan, which was specifically designed for wine preservation, with the controlling means of Brimer, which was designed for controlling temperatures in large buildings. The mere fact that references *can* be combined or modified does not render the resultant combination obvious unless the prior art also *suggests the desirability* of the combination. There is no suggestion in the prior art to combine the teachings of Gowan and Brimer, and the prior art provides no suggestion to explain why such a combination would be desirable. To the contrary, even the Brimer and Gowan references themselves suggest that the proposed combination would be undesirable.

Prior art must be considered in its entirety, including disclosures that teach away from the claimed invention. The teachings of Gowan and Brimer repeatedly contradict one another and teach away from the claimed invention and the combination proposed by the Examiner. As described above, Gowan provides an extensive and detailed description of the difficulties of storing wine. (See col. 1, line 32 - col. 2, line 57) The entire purpose of Gowan is to convert a ordinary household refrigerator to make it suitable for storing wine. “Unfortunately, as well know to those skilled in the art of wine preservation, cooling wine quickly from a relatively high temperature to the proper storage temperature can adversely affect wine and hinder the efficacy of storing wine for extended periods of time in conventional household refrigerators.” (See Gowan col. 2, lines 42-47) Gowan even describes how the temperature differences between areas within the refrigerator may make it unsuitable for storing wine. “For a wine collection of either solely white or red wine, however, the thermal gradient will case the storage of some bottles at a preferred temperature and others at a somewhat non-preferred temperature.” (See Gowan col. 1, lines 47-51) Nothing in the prior art suggests that a

combination of Gowan and Brimer would be suitable for changing the temperature of wine.

To the contrary, Brimer specifically *teaches away* from the gently controlled temperature changes required for wine preservation. As described in Brimer, the temperature within the building may differ greatly between the core and the perimeter of the building. Such large temperature differences are unacceptable for the art of wine preservation. The recovery routine of Brimer is designed to be "initiated early in the morning to change the temperature of the space from the night setback level to the desired occupancy temperature in time for the return of the occupants." (See col. 2, lines 45-47) Therefore, Brimer teaches allowing the space to cool overnight and then quickly re-heating the space in the morning when occupants return. This change of temperature is unacceptable for wine preservation and teaches away from combining Brimer with Gowan.

Furthermore, the specific means of the recovery routine for reheating the building also teaches away from the proposed combination. Brimer states that "it is desirable to change the space temperature in a linear fashion over as short a period of time as possible to minimize energy consumption." (See Brimer col. 1, lines 52-55) Also, the control program of Brimer teaches changing the incremental steps during the temperature adjustment *every ten seconds* (See Brimer col. 12, line 39) Such a rapid change in temperature is not suitable for wine preservation and contradicts the teachings of Gowan. Accordingly, Brimer teaches away from the claimed invention and there is no suggestion or motivation to combine Brimer with Gowan.

Finally, Gowan and Brimer do not teach or suggest all the claims limitations of Claim 1. As acknowledged by the Examiner, Gowan does not disclose "a control element sending said target value signal to said control device with a level varying according to a prescribed course to the final temperature," as recited in Claim 1. Brimer also does not disclose the prescribed course as recited in Claim 1. As shown in Fig. 2 of the present application, the prescribed course for the target value signal is illustrated as the solid stepped line (15) and the actual temperature is shown as broken line (16) having multiple curved portions as the actual temperature approaches the target temperature. This is not the equivalent to the graph shown in Fig. 11 of Brimer. In Fig. 11 of Brimer,

the graph illustrates the actual temperature of the space in a stepwise fashion. (See col. 12, line 56) Therefore, in Brimer, the actual temperature is changing in a sudden stepwise fashion. This stepwise function for the actual temperature in Brimer further supports the position that the sudden temperature changes of Brimer are not acceptable for the art of wine preservation. Therefore, the prior art references do not teach or suggest all the claims limitations of Claim 1 and the proposed combination does not support a *prima facie* case of obviousness.

For these and other reasons, Gowan and Brimer, either alone or in combination, do not teach or suggest the subject matter defined by independent Claim 1. Therefore, Claim 1 is allowable. Claims 2-14 depend from Claim 1 and are allowable for the same reasons and also because they recite additional patentable subject matter.

Regarding Claims 7 and 8, the Examiner cites caselaw and the MPEP to support that it is not patentable to discover the optimum of workable ranges of the cooling rate by routine experimentation. However, that is not the situation with the present application and the cited portions of the MPEP and corresponding caselaw are not relevant. MPEP §2144.05(II)(A) states the following: “Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art *unless there is evidence indicating such concentration or temperature is critical.*” (emphasis added) In Claims 7 and 8, the recited range is critical, so the cited portions of the MPEP and corresponding caselaw are not relevant.

As described in the specification, the present invention is intended to gently bring wine to an optimal drinking temperature while avoiding sudden temperature changes that can degrade the quality of the wine. A temperature change rate of between 0.5 and 3 K/h is generally considered an acceptable temperature change rate for moderating wine. This range is significant because changing the temperature of the wine at a faster rate beyond this range is more likely to degrade the quality of the wine.

Applicants do not claim to have discovered this range and the claims do not merely recite this range. Independent Claim 1 and the intervening claims recite a device including a variety of features in combination with the specific range for the temperature change rate recited in Claims 7 and 8. The rate between 0.5 and 3 K/h provides a

tangible limitation that further clarifies that the claimed device should be suitable for changing the temperature of wine.

The Examiner notes the cooling rate of Gowan appears to be within this range. This seems logical because Gowan is intended to be used for wine preservation. However, this also provides further support for the Applicants' position that the Brimer reference is non-analogous art for the present application and that Brimer is improperly combined with Gowan. Brimer teaches changing the temperature of a building at a sudden rate that is unsuitable for the treatment of wine. The sudden rate of change of Brimer would be completely unacceptable for use with the device of Gowan. Therefore, Applicants respectfully request reconsideration of the rejection of Claim 7 and 8.

Regarding Claims 10-14, the Examiner contends that it would have been obvious to one having ordinary skill in the art to have a heating/cooling temperature control system used on multiple compartments. The Examiner has not cited any such device and has not stated any reasons why such a device would be obvious based on the prior art. The Examiner has merely made a conclusory statement and provided no factual support for such a statement. Gowan teaches a conversion kit for modifying an existing ordinary household refrigerators. Gowan controls the temperature within the refrigerator by overriding the chiller and restricting the power supply to the refrigerator. Ordinary household refrigerators only have a single refrigerator cavity, and the Examiner has not provided anything teaching or suggesting otherwise. Therefore, Applicants respectfully request reconsideration of the rejection of Claims 10-14.

New independent Claim 15 recites a wine temperature moderating device for adjusting the temperature of wine from a starting temperature to a final temperature, the device comprising: a housing at least partially defining an interior space for receiving wine containers; a low temperature generator for cooling the interior space; a temperature sensor sensing the actual temperature within the interior space and providing an actual signal input; a thermostat control device receiving the actual signal input representing the actual temperature and a target value signal input representing a target temperature and controlling operation of the low temperature generator to adjust the temperature of the interior space to the target temperature; and a control element connected to the thermostat control device and sending the target value signal input to the thermostat control device

with a level varying according to a prescribed course that controls a change of target temperature at a substantially constant rate of change between about 0.5 and 3 K/h on average until the final temperature is reached.

The prior art, particularly Gowan and Brimer, does not disclose a wine temperature moderating device as recited in Claim 15. More specifically, the prior art does not disclose, among other things, a control element connected to the thermostat control device and sending the target value signal input to the thermostat control device with a level varying according to a prescribed course that controls a change of target temperature at a substantially constant rate of change between about 0.5 and 3 K/h on average until the final temperature is reached.

Therefore, Applicants respectfully request allowance of independent Claim 15. Claims 16-18 depend from Claim 15 and should be allowed for the same reasons and also because they recite additional patentable subject matter.

New independent Claim 19 recites a method for adjusting the temperature of wine from a starting temperature to a final temperature with a wine temperature moderating device comprising a housing at least partially defining an interior space for receiving wine containers, a low temperature generator for cooling the interior space, a thermostat control device controlling operation of the low temperature generator to adjust the temperature of the interior space, and a control element electrically connected to the thermostat control device, the method comprising the acts of: sending a target value signal input representing a target temperature from the control element to the thermostat control device; and adjusting the target value signal input with a level varying according to a prescribed course that includes changing the target temperature at a substantially constant rate of change between about 0.5 and 3 K/h on average until the final temperature is reached.

The prior art, particularly Gowan and Brimer, does not disclose a method for adjusting the temperature of wine as recited in Claim 19. More specifically, the prior art does not disclose, among other things, adjusting the target value signal input with a level varying according to a prescribed course that includes changing the target temperature at a substantially constant rate of change between about 0.5 and 3 K/h on average until the final temperature is reached.

Therefore, Applicants respectfully request allowance of independent Claim 19. Claim 20 depends from Claim 19 and should be allowed for the same reasons and also because they recite additional patentable subject matter.

CONCLUSION

In view of the above, entry of the present Amendment and allowance of Claims 1-20 are respectfully requested. If the Examiner has any questions regarding this amendment, the Examiner is requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,



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